

Mr. Bernard Smith's text-book shows that there is still ground for Mr. Cooley's complaint, for it treats physical geography as mainly geology. It describes the physical process at work on the earth's surface, and deals inadequately with the distribution of the results and their influence on human development. The book is admirably illustrated, but a large proportion of its 221 figures are geological, and many of the best are from the collection of the Geological Survey. The photograph of the deck of a warship (p. 180) might have been replaced by one of more geographical value.

The book makes no claim to originality either in subject or method. It begins with short accounts of the solar system and the atmosphere; most of the book is devoted to a description of the composition, sculpture, and forms of the land, and it ends with a brief summary of the geological history of the British Isles. The author occasionally assumes too much knowledge of other sciences, and gives some explanations, as of the electro-magnetic theory of light, which are unnecessary in a geographical text-book.

On its lines the book is well done, but the paragraph on p. 12, "The atmosphere is heated chiefly in two ways—by the internal heat of the earth and by the sun's rays," would suggest that the internal heat has a powerful effect. The term caldera is used for a large crater, whereas it is better limited to a crater formed by subsidence. There are inevitably a few mistakes, such as the statement that the Colchester earthquake destroyed from twelve to thirteen thousand buildings; the title of a view of Stirling calls the river there the Tay, and the Midland Valley of Scotland is described as a lowland plain.

Die Elemente des Herzmuskels. By Prof. A. Dietrich.

Pp. 46. (Jena: Gustav Fischer, 1910.) Price 1.20 marks.

THE twelfth of the series of short monographs published under the editorship of Profs. Gaup and Nagel is a very able and interesting account of the minute structure of cardiac muscle, by Prof. Dietrich, of Charlottenburg. Perhaps of most value at the moment is his concise and judicious statement of our knowledge of the structure and distribution of the atrio-ventricular bundle, that complex system of peculiar fibres collecting the whole musculature of the heart under its extended grasp, as if for purposes of co-ordination. More original and of great interest is his discussion as to the meaning of the transverse lines which are still very generally accepted as limits to those individual cells by the juxtaposition of which the fibres of cardiac muscle are said to be formed. Faith in this view was somewhat shaken when it was found the structural element of major importance, the intra-cellular contractile fibrils, swept through these lines without interruption. More recently this view has been still further discredited by proof of their irregularity of occurrence in relation to the nuclei of the tissue.

Prof. Dietrich does not attempt to arrive at any very definite conclusion in this matter, but his treatment of the subject includes an excellent and impartial summary of views advanced by other recent investigators, and is illuminated by the results of his own experience and observations. It seems clear that these lines are definite incidents of structure of invariable occurrence and not artefacts due to conditions prevailing only at death or in the technique of the histologist. That is to say, Prof. Dietrich makes this clear, and his observations of their differential distribution in various districts of the wall of the heart, and discussion as to the circumstances more characteristically prevalent in each of these districts deserve special attention.

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Black's Medical Dictionary. Edited by John D. Comrie. Pp. x+855. Fourth edition. (London: A. and C. Black, 1910.) Price 7s. 6d. net.

THIS book, which has now reached its fourth edition, contains an extraordinary amount of information in a comparatively small space. So far as we have been able to test it the details given seem generally to be accurate, and we consider that it well fulfils its avowed function of imparting medical knowledge in comparatively non-technical language, such as is required by the district nurse, health visitor, clergyman and missionary, ship's captain, colonist, traveller, and others. We think that some of the rare conditions mentioned, such as acromegaly, myasthenia, and syringomyelia, might well have been omitted, and the space gained have been devoted to such a subject as the management of labour, which is too briefly treated. Similarly, the pages devoted to the history of anaesthetics are of no real value, and had they been cut down to one-half, and a few practical hints given on the administration of anaesthetics (which occasionally has to be done by a missionary, ship's captain, &c.), the book would have gained in usefulness.

What will the Weather be? The Amateur Forecaster's Vade Mecum. By H. G. Busk. Pp. 36. (Cambridge: W. Heffer and Sons, Ltd., 1911.) Price 6d. net.

IT is less than a year ago that the first edition of this useful booklet appeared. We notice that in the new edition tables for confirming a forecast, and a note on the significance of a barogram, have been added.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Early History of the Gibraltar Cranium.

THE Gibraltar cranium is generally regarded by anthropologists as one of the most important discoveries yet made of the Neanderthal type of man. Unfortunately, its early history is imperfectly known. The two following letters help to make good this deficiency. For the first I am indebted to Colonel E. R. Kenyon, Commandant of the Royal Engineers at Gibraltar; for the second, to the Misses Busk, daughters of Mr. George Busk, F.R.S., who in 1868 presented the cranium to the Royal College of Surgeons, England, of which he was at one time president.

Engineer House,
Gibraltar,

April 2, 1910.

"In the Minutes of the Gibraltar Scientific Society, under date March 3, 1848, there is this record":—

Presented a Human Skull from Forbes Quarry, North Front, by the Secretary.

"On February 4, 1846, Lieut. Flint, R.A., was elected secretary, and there is no record of any change. The officers of the society were re-elected in February, 1847, and February, 1848.

"The last recorded meeting of the society was in May, 1853.

"The old plans have been examined, and no place named 'Forbes Quarry' can be found, but I think there can be no doubt that it is the disused limestone quarry shown on the Ordnance Survey south-east of the ancient 'Forbes Barrier.' The obsolete batteries near there are the 'Forbes Batteries,' and these are the only sites to which the name 'Forbes' is attached."

E. R. KENYON.

"Col., Chief Engineer."

"P.S.—Lieut. Flint died at Mauritius as a captain on January 12, 1857."

The famous Neanderthal remains were found in 1857, and are usually regarded as the first discovered remains of that remarkable race of early Europeans now known by the name of Neanderthal man (*Homo primigenius*, Schwalbe). It will be thus seen that the Gibraltar cranium was the first discovered trace of Neanderthal man, having been found nine years before the type-specimen.

The second letter is from Dr. Hugh Falconer to Mr. George Busk. The date of the letter was certainly 1864; Dr. Falconer and Mr. Busk were then preparing a report on a large collection of fossil remains from caves at Gibraltar for the British Association meeting at Bath in that year. In this collection was the famous cranium. The collection was made and sent home by Captain Brome, who was in charge of the garrison prison. Unfortunately, his scientific enthusiasm led to his dismissal from his post and from the Services; he had employed prisoners to help him in the scientific investigations which led to the discovery of the remarkable cave fauna of Gibraltar. Mr. Busk took a leading part in obtaining from fellow men of science financial sympathy on behalf of Captain Brome.

21 Park Crescent,
August 27 (1864).

"My Dear Busk,

"A hint or two about the names which I have been rubbing up for the Priscan Pithecoïd skull, *Homo var. calpicus*, from Calpe, the ancient name for the Rock of Gibraltar. What say you?

"For the characters of the face: as all the *pros*, *orthos*, *katas*, &c., are already engaged in conjunction with *gnathos*, we must look elsewhere. *Βλεμμα*—*aspectus*, *vultus* for a foundation sound well and appropriate—e.g. *Βλεμματω* "*truculus oculis circumspicio*," I am sure Pithecoïd must have looked terribly truculent.

"Now for the combination. *Pro-blemmatous* at a pinch might do, but I doubt the soundness of the combination, and I think a better might be *agriblemmatous*, from *αγριος*, wild or savage, and *Βλεμμα*. By this happy combination you will unite the truculence of the eye and the savagery of the face. *Agriblemmatous* is really not a bad idea—it points distinctly to a peculiar savage feature—

"Walk up! ladies and gentlemen. Walk up! and see Professor Busk's Grand, Priscan, Pithecoïd, Mesocephalous (!), Prognathous, Agriblemmatous, Platycnemic, wild *Homo calpicus* of Gibraltar; Sounds well, anyhow.

"But *mesocephalous* is French-like—radically wrong. The temporal is a mesocephalous bone of the head; but the skull itself cannot be mesocephalous, or a mid-headed portion of itself. *Diacephalous* is better than Broca's term.

"Yours ever,
"H. FALCONER."

The letter shows that the veteran Scot, the pioneer of the Siwalik fauna, had a sense of humour, a facility in coining names, and a very clear conception that *Homo calpicus* was a very distinct variety of mankind. The cranium was duly exhibited at the meeting of the British Association at Bath in 1869, but there is no record in the report of what Mr. Busk said about the skull (except as to where it was found and that it resembled the Neanderthal specimen) nor of Dr. Falconer's taxonomic suggestions.

A. KEITH.

Royal College of Surgeons, Lincoln's Inn Fields, W.C.

A New Mineral?

WHAT may prove to be a new mineral has been obtained from the Du Toits Pan Mine at Kimberley. The material is in two forms: irregular pieces up to half a pound in weight, and small round pellets, which, collected together in a heap, would be mistaken for mixed shot. Some specimens are dull like lead on the outside, while others have a resemblance to polished nickel. The prevailing inside texture is spongy-looking. Under the microscope some of the surfaces are seen to be pitted with holes where the spongy texture reaches the surface. On the other hand, some of the larger pieces have wrinkled surfaces, not pitted; others have bright surfaces intersected with tiny cracks. Many of the specimens are covered with a blackish

coating of about the thickness of paint. This is probably graphite; it scrapes off easily enough.

The specific gravity is on the whole something higher than 6.7, but by exactly how much higher it is difficult to say, on account of the porosity of the material. The hardness ranges high, varying from about 6 on a fractured face and on the duller outside surfaces to upwards of 9 on some of the bright surfaces. It is attracted by the magnet to a moderate extent—some pieces very feebly. It is very brittle, and on fracture gives off a strong smell of carbide.

Mr. W. Versfeld, Government analyst, Cape Town, makes out the following analysis:—

	Per cent.
Iron	71.39
Silicon	20.03
Carbon	8.41
	99.83

This composition corresponds approximately with the symbol $\text{Fe}_{13}\text{Si}_2\text{C}$. It appears that in chemical properties this mineral is one of the most refractory of substances. The mineral acids, aqua regia, fused potassium bisulphate, have only a slight action upon it. Roasting at a very high temperature causes no change except a slight tarnishing. Fusion with sodic peroxide, however, causes a ready oxidation. Prof. Schwarz, to whom the material was submitted, has taken a great interest in the find, and calls it, therefore, very aptly, a *feriferous carborundum*.

Unfortunately, none of the material has yet been found *in situ* (nor is it very likely to be, seeing that the supply has now nearly ceased); all of it, so far, has been picked out at Pulsator by the manager, Mr. J. Stewart, in separating the blue-ground for diamonds. Schwarz points out quite truly that in the absence of a specimen in the blue-ground matrix the history of the material is incomplete. Nevertheless, it seemed advisable to put the facts, so far as they are known, on record.

With regard to the origin of the material, Prof. Schwarz writes as follows:—"Dr. P. A. Wagner states in his paper on 'Kimberlite Occurrences in the Pretoria District' (Trans. Geol. Survey of S. Africa, vol. xiv., p. 62, 1911), that on melting up blue-ground in a crucible, metallic globules of iron were obtained usually enclosed in the olivines crystallised from the fused mass. Mr. Thornton Murray examined the largest of these globules and found it to consist of a perlitic grey cast-iron enclosing flakes of graphite; it weighed one gram, but the average globules were smaller. The new mineral from Du Toits Pan Mine is probably of the same nature produced naturally; some local source of heat, frictional or chemical, due to combustion of gas or otherwise, may have raised a portion of the blue-ground to fusion point, and thus produced the globules and masses by reduction of the ilmenite or even the silicates of iron. The refractory nature of the material renders it possible that it formed as an original constituent of the blue-ground, but the subsequent hydration of the olivine rock to the serpentine breccia would probably have acted more upon the substance than is apparent in the actual specimens. Re-fusion of the hydrated rock seems therefore a more probable explanation."

J. R. SUTTON.

Kimberley, August 14.

A Miniature Rainbow.

JUST about three o'clock this afternoon (I had a few minutes previously asked the time at the village post office) I witnessed a remarkable and very beautiful phenomenon. Coming through a woodland walk, I was caught by a heavy downpour of rain. As it was passing away, the sun shone down from a suddenly clear sky over the tops of the trees behind and to the right. Instantly against a screen of dark alder foliage on the left in front, and distant not more than three yards from where I stood, a perfect miniature rainbow was formed, its highest part being just about level with my eyes. It appeared broader than an ordinary rainbow, and much the greater portion was of one deep violet colour, the remaining colours forming merely a narrow border above. Very vivid at first, it quickly faded away, as the shower came to an end.

Kilderry, Londonderry, August 28.

W. E. HART.